

IN THE CLAIMS

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Currently Amended) A solid state thermal engine comprising:

a first drum;

a second drum;

a third drum;

a first and second pulley positioned on said first drum;

a third, fourth, and fifth pulley positioned on said second drum; and

a belt interconnecting said first, second and third drums;

wherein a portion of said belt is heated, said heating causing said belt to expand and to reduce the tension on said belt, thereby causing said first drum to move transversely towards and away from said second drum to provide linear actuation ~~belt to move around said first, said second and said third drums, and causing said first, second and third drums to rotate.~~

11. (Original) The solid state thermal engine according to claim 10, wherein said first pulley comprises a greater radius than said second pulley.
12. (Original) The solid state thermal engine according to claim 10, wherein said third, fourth and fifth pulleys comprise a greater radius than said first pulley.
13. (Original) The solid state thermal engine according to claim 10, wherein said third and fourth pulleys are connected so that said third and fourth pulleys rotate with the same angular velocity.
14. (Original) The solid state thermal engine according to claim 10, wherein said fourth and fifth pulleys are connected so that said fourth and fifth pulleys rotate with the same angular velocity.
15. (Original) The solid state thermal engine according to claim 10, wherein said belt is heated by a heat exchanger.
16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (New) The solid state thermal engine according to claim 10, wherein upon said heating of said belt, said solid state thermal engine functions as a chain fall.

21. (New) The solid state thermal engine according to claim 10, wherein said heating is performed using a regenerative heat exchanger.

22. (New) A solid state thermal engine comprising:

a first drum;

a second drum;

a third drum;

a first and second pulley positioned on said first drum;

a third, fourth, and fifth pulley positioned on said second drum; and

a belt interconnecting said first, second and third drums;

wherein a portion of said belt is heated by a regenerative heat exchanger, said heating causing said belt to expand and to reduce the tension on said belt, thereby causing said first drum to move transversely towards and away from said second drum to provide linear actuation.